

What is claimed is:

1. A system for measuring a characteristic of a sample, the system comprising:
a light source;
5 a light measuring device; and
a sample receptacle, wherein the receptacle receives and emits light from the light source and wherein the emitted light is measured by the light measuring device.
2. The system of claim 1, wherein the receptacle further comprises a reflective
10 surface and a chamber to store the sample.
3. The system of claim 1, wherein the receptacle comprises of an at least one layer.
- 15 4. The system of claim 3, wherein the at least one layer comprises of an access layer, a channel layer, and a base layer.
5. The system of claim 4, wherein the access layer comprises an opaque reflective surface.
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6. The system of claim 5, wherein the access layer further comprises a first reflective access opening and a second reflective access opening.
7. The system of claim 5, wherein the channel layer comprises a plurality of
25 channel layer openings coupled in communication with one another.
8. The system of claim 7, wherein plurality of openings is in alignment with the second reflective opening.

9. The system of claim 8, wherein the base layer serves as the protective layer of the receptacle such that the sample does not escape the channel layer after receipt from the access layer.

5 10. The system of claim 3, wherein the at least one layer comprises a plurality of layers coupled to one another.

11. The system of claim 10, wherein the plurality of layers comprise a first layer and a second layer.

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12. The system of claim 11, wherein the first layer comprises a reflective section and the second layer comprise a chamber within.

13. The system of claim 12, wherein the reflective section and chamber are in alignment and in communication with each other.

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14. The system of claim 10, wherein the first layer and the second layer engages with an attachment of the light measuring device.

20 15. The system of claim 12, wherein the chamber comprises a chamber opening, a first transparent side and a second transparent side.

16. The system of claim 15, wherein the first transparent side is also the cover of the chamber.

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17. The system of claim 15, wherein the second transparent side contains the sample while also providing for an aperture through which light from the light source may pass through to illuminate and interrogate the sample.

30 18. The system of claim 1, wherein the receptacle comprises an integrated layer for filtering and analysis.

19. The system of claim 18, wherein the integrated layer comprises an application port, a separation zone, a transport and detection zone, a reflective aspect, a transparent aspect, and an optical filter.

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20. The system of claim 19, wherein the integrated layer further comprises a reagent.

21. A method for measuring a characteristic of a sample comprising the steps of:

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(a) illuminating a sample;

(b) collecting the illuminated light from the sample;

(c) measuring a reflected light from the sample; and

(d) determining a characteristic of the sample based on the measurement of the sample's reflective and/or fluorescent properties to know properties,

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wherein the sample is contained in a receptacle allowing for the performance of steps (a) – (d).